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Descriptive Account

David OF A Hughes. 1799

NEW METHOD

OF TREATING

OLD ULCERS

Of the Legs.

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Enlarged, Corrected, and considerably Improved.

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NEW METHOD

OF

TREATING ULCERS.

THE very frequent occurrence of the disease I am about to consider may occasion this Treatise to be sometimes read by persons who are not of the medical profession, as the method of cure it describes is simple in practice and easy of application; therefore if any observations appear which seem unnecessary for medical readers, I hope it will be recollected that it is my desire to

make it as useful as possible to every one labouring under the complaint of which it treats.

Ulcers of the Legs have from the earliest times been classed among the most unmanageable diseases which occur to the Surgeon in the exercise of his art, and indeed have so often defeated the utmost efforts of his skill as to have become the reproach of his profession; circumstances so disagreeable sufficiently evince the idea entertained of their intractable nature, and best prove how valuable a remedy which does not require confinement, is easy of application and within the attainment of every description of person must prove to the human race.

This

This disease from the various accidents to which the Legs are exposed in performing the necessary duties of life is found to affect the greater number of persons who are actively employed at some time or other; and from the unfavourable situation of the parts which are placed at a remote distance in the human machine from the fountains of life and heat, and are obliged to return the venous blood and lymph to the heart under some peculiarly unfavourable and disadvantageous circumstances, the difficulties have arisen which have been so frequently lamented.

It has however very often happened that the affluent and more healthy part of the com-

community have obtained cures by rest and long confinement, whilst the laborious poor and the aged have almost always been unable to attain by any means, a restoration of that health which is so peculiarly dear and valuable to them.

The defenders of our country from the inevitable accidents attendant upon the discharge of their duties, are particularly liable to this disease; and it is observed by Mr. Home in his valuable treatise thereon, that, "when we consider the number of recruits who are rejected, and the number of well disciplined men who are discharged from the army on account of ulcers on the legs, it must appear to be one of the most important

important duties of every military Surgeon, to pay particular attention to a complaint which renders so many men unfit to perform the duties of soldiers." And again, "that it not only brings distress upon the individuals, but deprives the publick service of a greater number of men than the country in time of war is able to afford."

The naval service has perhaps suffered still more, as those employed in it are not only liable in common with other men to accidents which happen to the legs, but are also rendered worse subjects for the disease when it occurs by the inclemency of tropical climates to which they are occasionally exposed.

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In the West-India Islands the disease happens so frequently from the bites of insects and other slight causes in the crop season, and proves so very unmanageable as to occasion as much or more real distress to the Africans, and sometimes to the natives, than many of the endemial diseases found in those pestilential regions.

It appears also certain that as no condition of life or variety of situation affords a secure exemption from its occurrence, so also that the remedies hitherto discovered have been found not only tedious, troublesome and uncertain, but have generally failed to accomplish lasting cures. The following pages will point out a new one, so simple,

so easy of application, and so certainly useful, that I have no hesitation in saying if any can deserve the appellation of a specifick, this does in an eminent degree; as it easily accomplishes the cure of a disease which by the frequency of its occurrence, annually deprives every large country of the labour of thousands of its inhabitants, and those of most of the comforts of their lives.

As the opinions I now entertain concerning the *cauſes* of ſome of the advantages derived from this method of treatment vary a little from thoſe adopted when my opportunities of observing its effects were more limited, and as my present sentiments are

deduced

deduced from actual observations, which receive considerable support from the remarks of ingenious men who have considered the same subject, I hope it will be found that the difficulty of explaining effects which depend upon some of the laws of animal life is considerably diminished, if not entirely done away. I do not however pledge myself for the infallibility of the reasoning advanced, being sufficiently gratified by the opportunity afforded of presenting to the publick a *remedy* for a disease which had been deemed incurable; and *which* communications from many parts of the kingdom prove to have been as successful in other hands as my own. If I were merely to describe the plan of treatment, it would

not

not be perceived by what gradations the practice was brought to its present state; and some further application of its principles to other diseases might be overlooked. I shall therefore give a short account of the motives which induced me first to adopt it, and the effects then observed.

About the commencement of the year 1792, after having experienced repeated disappointments in my endeavours to obtain permanent cures for some patients with whom I had taken more than common pains, and for whom I had tried rest in an horizontal posture, *exercise, precipitate,† bandages‡

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* See Bell's Treatise on Ulcers. † Underwood's Treatise on Ulcers of the Legs. ‡ Else's Method of treating sore Legs.

and every other remedy I was acquainted with that authors had recommended, both alone and conjoined with the most approved internal medicines, *I determined on endeavouring to bring the edges of thoſe ulcers which might in future be placed under my care, nearer together, by means of ſlips of adheſive plaſter*; having frequently had occasion to observe that the probability of an ulcer continuing sound depended much on the size of the cicatrix which remained after the cure appeared to be accomplished: and believing also that the natural shield of the part, the true skin, afforded a much more substantial support and defence, as well as a better covering, than the frail one supplied by nature in the common methods of cure.

I had also in view to lessen the probability of ulcers breaking out again, which might be healed by the means I proposed to make trial of, as well as an expectation of being able, if the application could be borne by my patients, to gain some time in the cure. Though I expected to obtain some of these advantages, I did not venture to hope that a mere slip of adhesive plaster applied in a *particular* way, would prove the easiest, most efficacious, and most agreeable of all applications to a wound so proverbially irritable as an ulcer; much less could I expect that it would lead me to the discovery of a method of curing with ease, diseases which had so long exercised my patience, and defied my industry. It had never in that species of

sore,

sore I believe been tried, therefore it is not remarkable, though every Surgeon must acknowledge his obligations to it in *recent* wounds, that I then adopted it as a doubtful remedy. Opportunities to try it were not long wanting, and although the cases which first presented were of an unfavourable description, I had the pleasure to perceive that it occasioned very little pain in the application, sat easily upon the wounds, gave my patients great satisfaction, and in every instance materially accelerated the cure. I had also the pleasure to observe that the chief purpose of its application was obtained, namely, that the size of the cicatrices were less than they would have been, had the cures been performed by any of the common methods.

methods. My success however did not seem quite perfect, as I was not able in many instances to remove the slips of plaster without displacing some portion of the adjacent skin, which by occasioning a new, though very trifling wound, I feared might prove a disagreeable circumstance in a part so disposed to inflame and ulcerate, as the vicinity of an old sore, in a situation so far removed from the source of circulation. I therefore endeavoured to obviate that inconvenience, in the cases which next presented, by keeping the plasters and bandages well moistened with spring water some time before they were removed from the limb. I had the satisfaction to observe it was then prevented, and that every succeeding

ing case justified the confidence I began to place in the remedy. I discovered also that moistening the bandages was attended with other considerable advantages, that my patients were rendered much more comfortable in their sensations while the parts were wet and cool, that the surrounding inflammation was sooner removed, and that many persons who could not bear the application of a tight bandage in a dry state, submitted to it without inconvenience, or complaint, when it was kept moist and cool.

All these patients were at first enjoined to keep the affected part as much at rest as possible, but as it happened that many of them were from the nature of their occupations,

tions, obliged to stand and walk a confidera-ble part of the day, I discovered that their cures were accomplished in less time than the cures of those who were confined to their beds; and that the exercise in no instance prevented the progression of a cure, but on the contrary, that the plan as accompanied with exercise, reduced the most copious discharges in a few days, to the quantity afforded by healthy sores; and in the same space of time restored the foulest and most fetid ulcers to a healthy and healing con-dition. It also appeared that the distress was in every instance diminished, having been often told at the second, and sometimes at the first dressing, they had experienced more ease in that short period, than had been

known

known in many preceding months. I now speak of those found in the worst situations, whom I took under my care to put the plan to the severest trials. Its success even in those instances was so uniform, that I can safely assert there will in future be found a very small proportion of ulcers unconnected with morbid poisons, diseased bones, or constitutional affections, as syphilis, caries, scrophula, &c. which may not be cured in a shorter space of time than will readily be believed, without much pain or any confinement, if it be pursued with steadiness and the requisite care. It has been already remarked that the discharge will be lessened, the offensive smell removed, and the pain abated in a very short time; these advantages though so great,

great, are not all which belong to this simple innovation; the callous edges will in a few days be levelled with the surface of the sore, the growth of fungus prevented, and consequently, the necessity for painful escharotics much diminished; whilst the condition of the disease will be so speedily improved, as to entirely prevent those constitutional effects which in large ulcers often occasion an increase of misery, and sometimes end in death. The progression of the cure will also be uniform, and those who adopt the plan, will not again find the labour of months destroyed by a new action of the sore in a few days, as it always happens that the advantages gained are preserved till a cure is compleated. The probability of a relapse is likewise greatly

diminished in every variety of the disease ; as where granulations are required to supply deficiences and form skin, they will be smaller, and endued with greater power to sustain the future actions of the parts, and the new skin will remain free from scabs or scales, and resemble in its appearance and properties the original covering; whilst the cicatrix, where ulcers are situated upon yielding parts, will be so small (if care be taken to bring the retracted skin nearer together at each time of dressing) that there will be little risque of its again giving way. These advantages are obtained with little trouble, and without that confinement which under former methods injured the patient's health, at the same time that it deprived him of the opportunity of providing for himself or his family.

I shall now endeavour to describe the means whereby these advantages are obtained; and as it will be perceived that there is little more in the materials recommended than Surgeons have been long in the habit of using, it must also be perceived that the difference in the effects are to be ascribed to the *manner* in which those materials are applied. Success therefore depending upon the *mode* of their application, I shall be more particular in my description of *it* than perhaps may to many appear necessary; but being convinced that almost every thing which can be desired may be obtained in such cases if the principles are kept in view, and a proper application of the means persevered in, I hope by the fulneſs of my description to spare those who

adopt

adopt the plan, the inconveniences and disappointments which may be experienced if the steadiest attention does not direct its application.

The parts should be first cleared of the hair sometimes found in considerable quantities upon the legs, by means of a razor, that none of the discharges by being retained may become acrid and inflame the skin, and that the dressings may be removed with ease at each time of their renewal, which in some cases where the discharges are very profuse, and the ulcers very irritable, may perhaps be necessary twice in the twenty-four hours, but which I have in every instance been only under the necessity of performing once in that space of time.

The plaster should be prepared by slowly melting in an iron ladle a sufficient quantity of Litharge plaster or Diachylon, which if too brittle when cold to adhere, may be rendered adhesive by melting half a drachm of resin with every ounce of the plaster, when melted it should be stirred till it begins to cool, and then spread thinly upon slips of smooth porous calico of a convenient length and breadth, by sweeping it quickly from the end held by the left hand of the person who spreads it, to the other held firmly by another person, with the common elastic spatula used by Apothecaries; the uneven edges must be taken off, and the pieces cut into slips about two inches in breadth, and of a length that will after being passed round

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the limb, leave an end of about four or five inches. The middle of the piece so prepared, is to be applied to the sound part of the limb opposite to the inferior part of the ulcer, so that the lower edge of the plaster may be placed about an inch below the lower edge of the sore, and the ends drawn over the ulcer with as much gradual extension as the patient can well bear, other slips are to be secured in the same way, each above and in contact with the other, until the whole surface of the sore and the limb are compleatly covered, at least one inch below, and two or three above the diseased part.

The whole of the leg should then be equally

equally defended with pieces of soft calico three or four times doubled, and a bandage of the same about three inches in breadth, and four or five yards in length, or rather as much as will be sufficient to support the limb from the toes to the knee, should be applied as smoothly as can be possibly performed by the Surgeon, and with as much firmness as can be borne by the patient, being passed first round the leg at the ankle joint, then as many times round the foot as will cover and support every part of it except the toes, and afterwards up the limb till it reaches the knee, observing that each turn of the bandage should have its lower edge so placed as to be about an inch above the lower edge of the fold next below.

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If the parts be much inflamed or the discharges very profuse, they should be well moistened and kept cool with cold spring water, poured upon them as often as the heat may indicate to be necessary, or perhaps at least, once every hour. The patient may take what exercise he pleases, and it will be always found that an alleviation of his pain, and the promotion of his cure, will follow as its consequence, though under other modes of treating the disease it aggravates the pain, and prevents the cure.

These means when it can be made convenient should be applied soon after rising in the morning, as the legs of persons affected with this disease are then found most free

from

from tumefaction, and the advantages will be greater than when they are applied to limbs in a swollen state. But at whatever time the applications be made, or in whatever condition the parts be found, I believe it will always happen that cures may be obtained by these means alone, except in one species of the disease which seldom occurs, but that will hereafter be described. The first application will sometimes occasion pain, which however subsides in a short time, and is felt less sensibly at every succeeding dressing. The force with which the ends are drawn over the limb must then be gradually increased, and when the parts are restored to their natural state of ease and sensibility, which will soon happen, as much may be applied as the calico will bear,

bear, or the Surgeon can exert; especially if the limb be in that enlarged and inocmpressible state, which has been denominated the scorbutick, or if the edges of the wound be widely separated from each other.

It was observed in the preceding part of this Treatise, that I feared the consequence of breaking the skin in the vicinity of the sores, later experience has proved such occurrences to be of no consequence on any part except the tendon achilles, those wounds being always healed again in a few days; whereas on the tendon, such accidents occasion more trouble and require sometimes the care of many weeks. I therefore now make it a practice wherever the case requires considerable

siderable extension of the skin upon that part of the limb, especially if the patient be of a spare habit, to defend the tendon with a small shred of soft leather previously to the application of the adhesive slips.

It may be necessary to add, that cures will be generally obtained without difficulty, by the mere application of the slips and bandage, but when the parts are much inflamed, the secretions great, or the season hot, the frequent application of cold water will be found a valuable auxillary, and may be always safely had recourse to where the heat of the parts is greater than is natural, and the body free from perspiration.

It would perhaps have answered most of the useful purposes connected with this subject, merely to have made the publick acquainted with the method described of curing this disease; but the mind of the philosophical enquirer would not have been satisfied with the mere knowledge of the fact, he would have required an explication of the cause. To gratify such a wish, may now perhaps prove less difficult than it appeared before we were in the possession of the present method of treatment; which supplying us with data enables us to deduce satisfactory conclusions.

Various opinions concerning its *mode* of operation have been suggested by different learned and ingenious men since the publica-

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tion of the former edition of this treatise; but as none have come to my knowledge more satisfactory than those I have adopted, I shall attempt to explain them in this place. To do so even in the limited way I mean to allow myself, it will be necessary to take a view of the operations of nature in her endeavours to accomplish cures *where parts have been merely divided.* And also *where loss of substance having been experienced,* the edges of the divided parts have been kept asunder a sufficient length of time to occasion their death from defect of circulation. In the former case, where parts have been merely divided, re-union is accomplished either by the effused fluids acquiring vascularity, or (if the parts be brought into contact) by the

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inosculation of the old vessels. In the latter instances, that is, where loss of substance has happened, and where the death of the edges and surfaces of the divided parts has occurred ; the first step must be the removal of those dead parts, which is effected by an absorption of the extremities of the sound parts in contact with them, and perhaps some portion of those dead parts also ; this constitutes the ulcerative process, and is attended with purulent discharge. The living parts being thus freed from their incumbrances, the next action to be performed is the secretion of healthy matter or pus, which is also a preliminary act to the formation of granulations, and proves their rudiment, as the formation of granulations is the act which precedes

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the process of skinning. These actions are generally performed without difficulty in a healthy state of the constitution and of the parts. But where the constitution is so diseased by a poison as to occasion diseased actions in the parts, or where the parts themselves have their healthy actions disturbed by the irritation of foreign bodies, or poisons, the ulcerative process is continued. In like manner when ulcers on the legs of the poor are neglected in their early stages, the ulcerative process becomes habitual, and is generally continued to the end of their lives. The first *mistake* committed by such persons is their omitting to support the parts with proper bandages; the next, the disturbance of the process of granulating, by too

frequently

frequently wiping away the matter designed to furnish granulations, or the application of injurious substances in lieu of that mild material, the consequence of such omission, and improper interference is again the death of the surfaces of the sores, again the necessity of their removal by absorption, and again the renewal of that process whereby pus is furnished for the production of granulations. This round of actions performed by parts situated at a distance from the heart, and destined to return fluids through long tubes in a direction contrary to their gravity, and depending perhaps upon the healthy performance of all their actions, for the healthy performance of each individual action is generally attended with inflammation, and

as its consequence, the parts are supplied with a larger quantity of blood than was furnished in a state of health; this under the peculiar circumstances of the arteries, will occasion a greater deposition of lymph between the interstices of the muscles, and the cells of the cellular membrane than is necessary for their lubrication, or than the absorbents can carry away, which gradually increasing, will remove the absorbents from their vicinity to the arteries, and consequently, occasion a loss to them of the effect of arterial impulse, which while the vascular system of the limb continues in a perfect state, may be supposed to have considerable effect in propelling the returning lymph, as the lymphatic vessels are plentifully supplied with

valves, therefore I conclude that the principal difficulty which occurred in the curing of ulcers, has been occasioned by deficiency of power, in the absorbent vessels; and it appears certain that such deficiency of power is a consequence of that diseased state of the common integuments of the limb, which failed to preserve the parts in a natural situation, and to render them subservient to each others natural actions. The methods which have proved most successful in the treatment of this disease, appear to strengthen this conjecture, as well as the circumstance of cures having been found difficult to obtain in proportion to the length of the continuance of the complaint, and the consequent disease of the inveloping membranes. The difficulty

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has been always increaſed by perpendicular and other positions unfavourable to the transmission of fluids; and those cases have always proved the most difficult to cure which have afforded the strongest evidence of the absorbent system being in a diseased and weakened condition, namely, those attended with an incompressible and greatly thickened state of the limb, in consequence of interstitial deposition; and those attended with a varicose state of the veins; whereas, on the contrary, those have generally proved easiest to cure which being recent and remaining free from tumefaction have afforded a probability of the healthy state of that system of vessels. If this theory of the disease and of the effects

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of its remedy be admitted, we shall be no longer at a loss to account for the success which attends an application of these means; whether applied to recent ulcers where parts are merely retracted, and where it is only necessary to bring them into contact to obtain cures by inosculation, which is the most desirable event, as it saves time and enables us to arm the part with its original shield; or whether loss of substance has been sustained, and the edges and surfaces of the ulcers have been kept so long asunder as to occasion their death, and at length the habitual repetition of the ulcerative process; or whether cures have been prevented by the inactivity of the absorbents, as happens to the ulcers of aged people attended with thickened edges.

In recent ulcers it forms an uniting bandage, which enables us immediately to approximate retracted parts, and affords a temporary substitute for the healthy integuments, not liable to the inconveniences incident to those when weakened by a long continued course of disease. When it is applied so as to afford support to the whole of the diseased limb, persons may walk great distances, or even indulge in irregularities without obstructing their cures, as it subjects every part to the effects of the natural actions of the contiguous parts, and assists essentially the individual actions of each part concerned in the business of repair; and whether slough is to be removed, pus to be secreted, granulations to be formed, or skin to be re-produced,

ced, it happens that each of these actions commence and proceed in the natural order of their succession, whether the disease be recent, or in that state of habitual ulceration which has been termed the irritable; or whether after long continuance, and the expenditure of the powers of the parts, it has fallen into a state of inactivity, and acquired the characteristic of deficient absorption the callous edge.

This theory best explains the principle upon which the tight bandages of Wiseman proved useful. It also affords an obvious demonstration of the manner in which a horizontal posture, hot fomentations, and other stimulating applications, produced their good

good effects. Tight bandages resembled in some respects the method here recommended, and in proportion to that resemblance proved more useful than most other remedies; but it happened that an application of them sufficiently tight to render the vessels subservient to each others actions, occasioned more pain than could be conveniently borne; at the same time that the difficulty of retaining them upon the parts, presented other objections to their general use; but if those could have been obviated, it would have been impossible to have materially approximated retracted skin with them. Rest in bed always impaired the general health of the patients so treated, and cures so accomplished were seldom permanent. Fomentations were well

adapted

adapted to excite by the application of heat in the form of vapour, the action of the languid absorbents, and to cleanse sores by occasioning in that way a removal of their dead surfaces; but the actions which succeeded, so often furnished indications of debility by the production of unhealthy granulations, as to render it doubtful whether in many instances their good effects were not more than overbalanced by their disadvantages. Precipitate and some other stimulating applications were also well calculated to excite the actions of the absorbents, and were consequently, productive of excellent effects; but although cures were sometimes obtained by their use, the effects were by no means certain, nor were the cures often permanent.

From what has been said, may it not be inferred that the peculiar difficulties hitherto experienced in the treatment of ulcers of the legs, have depended chiefly upon a deficiency of the absorbent powers of the lymphaticks of those parts in the greater number of such diseases, especially in that denominated the scorbutick; and upon a like deficiency of the absorbent powers of the veins in that variety of the disease attended with a varicose state of those vessels? does it not appear that the deficiency of power in those vessels has been occasioned by a weakened state of the common integuments? and is it not probable that this remedy produces its good effects, or the greater number of them, by preventing in the early stages of ulcers, a greater deposition

sition of that mucilaginous fluid which is constantly supplied to the interstices of the cellular membrane, for the purpose of its lubrication, than the absorbents can remove; and in its latter stages when the size of the limb has been greatly increased by its deposition, and rendered incompressibly hard by its inspissation, that its good effects may be ascribed to the pressure which can be in this way so increased without giving pain, as to restore the parts to their natural situations and dimensions, and render them again subservient to each others actions? That this is very probable, if not absolutely certain, will be readily allowed by any person who has attended to its effects upon the disease commonly but improperly termed scorbutick, attended with incompressible

sible swelling, or to its effects upon extensive burns or scalds before the sloughing is compleated. In the former case, a limb of twice the natural dimensions will be reduced in a few days to the natural size, and in the latter, those sloughs which would have required weeks to remove under the common methods of treatment, will as a consequence of the encreased absorption of the living parts in contact with them, be removed in less than as many days, the consequences of that healthy action will not end there, the skinning process will immediately commence, and proceed so rapidly, that very large denuded surfaces will be again covered in a few days. So remarkable is the occurrence in such cases, that a gentleman who has

honoured

honoured me with some observations upon this practice in Dr. Duncan's periodical work, has compared it to the process of chrystalization, and has asserted, that the progress of the cure may be daily ascertained by measurement with a rule.

Though so much has been ascribed to the actions of the absorbents, and though I believe it must be admitted that in them is to be discovered the foundation of thoſe cures, where it has not been poſſible to bring forward the retracted skin; it must be also admitted, that the skinning process is materially assisted by the *efforts* made to bring forward the retracted parts, which efforts contract the granulations, and accomplish the very purposes which, the accurate observations of Mr. Hunter prove to

have been designed by nature in her final endeavours to compleat the operations she had so far successfully conducted.*

If the preceding opinions concerning the manner of the operation of this remedy be admitted, it may be reasonably expected that considerable advantages will attend its application to other diseases depending upon a debilitated state of the absorbent vessels of the extremities; that such advantages will be experienced in some instances, my late opportunities have proved. In fractures it has been had recourse to when the patients have first

* See page 477 of Mr. Hunter's Treatise on the Blood, &c.

first risen from bed, and been continued until the recovery of the strength of the parts, which happened in a shorter space of time than I had before observed, and without the occurrence of those swellings which generally succeed to such injuries and which always protract the cure. It has been found singularly useful in that tedious and troublesome disease the strained ankle after the removal of inflammation; and it seems probable that the good effects of those plasters denominated strengthening, which have been supposed to prove useful through the qualities of their ingredients, have been serviceable only in proportion to the support afforded to the absorbent and other returning vessels.

Previously

Previously to the publication of the former edition of this work, I had so freely communicated the account of my success, and the manner whereby it had been obtained to the persons whom I supposed would be profited by the information, that I found myself likely to be deprived of the credit of its invention; therefore, at the pressing request of a learned Friend who had long before witnessed its good effects in my practice, I asserted my claim to the discovery in a pamphlet, produced with less leisure than would have been required by many persons accustomed to address the publick. It will not therefore appear remarkable, that under such circumstances I should have considered *all* the means whereby I had been so successful, as necessary to the performance

formance of every cure; my later experience has proved that in some cases a part of those means and what I had deemed an essential part may be dispensed with, namely, the application of water; but as in diseases attended with inflammation or considerable discharge, which is always accompanied with the production of much heat, it is highly advantageous; I shall endeavour to explain the principle of its action and the causes of its beneficial effects.

The very interesting discovery of the office of the lungs, as the source of animal heat; together with the important fact ascertained by Mr. Hunter, that inflamed parts receive, and transmit more blood than

than similar parts in a healthy state, naturally lead the mind to the contemplation of a method of removing the more obvious phenomena of inflammation upon these principles, and occasion it at the same time to reject the modes of practice which were grounded upon the opposite doctrine of spasm as delivered by Dr. Cullen, and applied to the practice of surgery by Mr. Bell.

Perceiving that every case of inflammation affords an illustration of the new discoveries, it will appear necessary to remove the increased heat of the parts, and to lessen the diameters, and diminish the actions of the distended vessels; which latter effect, according to Mr. Hunter, is occasioned by the application of

"*cold*;" who says in his Treatise on the blood, that "cold produces the action of contraction in the veſſels." The solutions of lead, when mixed with water, are inadequate to the production of such effects, as they occasion the bandages to become disagreeably hard, and so impervious as to prevent that transmission of moisture which is conſtantly required to keep up the process of evaporation, whereby the removal of morbid heat is principally accomplished, and the parts restored to the healthy equilibrium.

Pure cold water is liable to no such objections, but will be found adequate to the production of the defired effect, without inducing that debility in the actions of the veſſels

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of divided parts, occasioned by the use of preparations of lead, or endangering the general health by the consequences of its absorption.*

That water has heretofore obtained and deserved credit as an application for inflammatory complaints, is rendered certain by the circumstance of many springs and wells having in the middle ages of christianity excited the veneration of the superstitious, and acquired so high a degree of reputation for medicinal virtues, as to have obtained the denomi-

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* "The extract of lead dissolved in water, when long applied, has been known to bring on the lead cholic; therefore should be used with caution."

See a Treatise on Ulcers by Everard Home, Esq. p. 78.

denomination of holy, and been supposed to have received from tutelary saints, qualities sufficiently salubrious to have enabled them to accomplish cures for many of the most inveterate diseases: such effects are now perceived to depend upon explicable causes, therefore the fact muſt be admitted, though the miracle be rejected.

Inflamed parts receive more blood than similar parts in a state of health. The blood is the vehicle of animal heat; it receives it from the atmosphere, combined with oxygen, through the moist membranous sides of the vessels of the lungs in the process of respiration. It is distributed to the body and limbs by the arteries, and those parts afford to the thermometer

mometer the greatest evidence of its existence, which are in an inflamed state. The temperature of parts in that state greatly exceeds the healthy standard, whilst the temperature of the springs in this country is considerably below the heat of the human body in a healthy ſtate, the application of water therefore, of the ordinary temperature of the springs of this country, or about 50°, and the effect derived from its converſion into vapour upon inflamed parts, reduces their temperature nearly to the healthy standard, and by the mere removal of ſo stimulating a material as heat, immediately abates pain, and in a great number of instances occasions actions ſufficiently healthy to accomplish cures without other interference. Erisipelas, or inflammation of

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the skin, is cured by the application of alcohol, as noticed by Dr. Fordyce in his treatise on fever, merely in consequence of the abstraction of heat, and upon the same principles may be explained numerous cures of ulcers performed by persons afflicted with them since the publication of the first edition of this treatise, by the mere application of cold water.

From what has been said, it will appear to be a remedy of singular utility in almost every case of local inflammation, and the future experience of those who make trial of it will, I am persuaded, leave them no cause to regret the neglect of those non-conducting substances improperly denominated *cooling ointments*, or the poisonous preparations of lead.

In

In tropical climates it will be difficult to procure it, either from the springs or the sea, of a lower temperature than 77° of Farenheit's scale, which, as the heat of the extremities in the human subject is some degrees lower than that of the trunk, might appear to limit its good effects to the inhabitants of the temperate regions; but when it is considered that the extremities in an inflamed state have their heat considerably increased, particularly in hot climates, it appears certain that its good effects may be extended to the sufferers from this disease in the colonies, more especially as water of any temperature will by the consequences of evaporation, remove heat. Since the publication of the former edition of this work, the ingenious Dr. Currie of Liverpool has handed to the world an account of

a method whereby he has been enabled for some years past to cure the Typhus, or common Fever of this country, a disease which has too often proved its scourge,—merely by pouring cold water upon the naked body at the height of the febrile paroxysm.

To readers who have kept pace with the improvements introduced into the practice of medicine and surgery within the last few years, it will be unnecessary to make any observations upon the supposed effects of issues as outlets or drains for morbid humours, the theories upon which those conjectures were founded having been obliged to yield to discoveries which explain more satisfactorily the different phenomena observed in most diseases, at the same time that they supply us

with more rational indications of cure. If, however, any medical person, either from respect to opinions formerly delivered, or observations made in his own practice, should be inclined to continue their use, it may not be amiss to remark, that the consequences of repletion, or of the retention of accustomed discharges, may be as effectually prevented by their insertion upon a superior extremity, as either of the lower limbs, which for obvious reasons should not be subjected to any cause which may injure the absorbent system of those parts, or serve as a point from whence inflammation may extend. On no principle therefore can I perceive them to be generally necessary, nor do I believe that practical observations will occasion their omission to be regretted. As supposed drains for morbid

humours, they must now be acknowledged improper, as the discharges of wounds are universally allowed to be composed of the best part of the blood, altered occasionally in its appearance and properties, by the different actions of the secreting vessels.

As the means of exciting new inflammation to arrest the progress of diseased actions in the vessels of parts, they appear to be unnecessary and improper; unnecessary, as the described methods are milder and more efficient, and improper, as they injure the vascular systems of those parts.

To persons not of the medical profession it may be only necessary to observe, that this practice

practice has been unremittingly pursued nearly seven years, and very many long established diseases speedily cured by it without the occurrence of any one accident, or the intervention of any inconvenience as a consequence of those cures, though issues have seldom or never been had recourse to, unless in compliance with fears and prejudices which could not be removed, whereas I believe I have seen numerous instances of their bad effects in the production of varicose veins, and weakness of the absorbent system, when had recourse to for the relief of other diseases.

It now only remains to present the reader with the detail of a few cases of the different

kinds

kinds of ulcers cured by these means, which affording a faithful picture of the practice, may serve to further elucidate it, and will prove that its good effects are as unlimited as the varieties of the disease, with only the exception of one species of ulcer, which requires the exhibition of an internal remedy, and which with its appropriate treatment will be found subjoined to the other cases.

It was said at the commencement of this Treatise that the described method of treatment had proved successful in other hands. This has been learnt from every professional gentleman with whom any correspondence upon the subject has been had. The candour of many whose names

are well known and deservedly respected, has enabled me to present complete evidence of its general utility; and I shall subjoin the communications of a few who reside in different parts of the kingdom.

To one of those gentlemen I am particularly indebted, not only for pleasure and information received from a Treatise published by him upon this subject, from whence some of the more valuable opinions here delivered may be traced, but also for an act of liberality which induced him without solicitation, to furnish me with hints for the arrangement of this Edition, which has increased its value with myself, and will I am certain, render it more acceptable to the publick.

To

To the ingenious author of Zoonomia also, it will be perceived acknowledgments are owing, which with those due to every person whose opinions or discoveries have in any way enabled me either to account better for the effects of the applications recommended, or which have been advanced in support of my conjectures, would have been noticed by marginal referrences as was done in the preceding Edition of this work, had it not been suggested by different friends, that such interruptions take off the attention too much from the subject under discussion ; and that the same purposes might be as well obtained by a general acknowledgment offered in this way.

It may not however be amiss to observe, that in reply to an application from Dr. Beddoes to the Author of Zoonomia to learn for me whether a passage in the second volume of that work, published in the year 1796, recommending bandages covered with carpenters glue and honey, or minium, in the cure of ulcers, had not been inſerted in conſequence of his having received from Dr. Beddoes an account of the success which he had observed to result from this practice; (but which Dr. Beddoes could not recollect to have mentioned in his correspondence.) Dr. Darwin says that he never received a line from him, or any other person, on the subject of sore legs, but had recommended plaster bandages many years for the

poor

poor in those diseases. It appears therefore, that this enlightened Phyfician had become acquainted with some of the principles of a remedy which experience now proves to be of so much utility.

The annexed Cases will it is presumed furnish specimens of almost every variety of ulcer commonly met with in practice: these like other complaints are nevertheless subject to modifications which vary their original features, but as the remedy is appropriate to those variations, I shall merely arrange them in the natural order of their occurrence; considering first those which appear to be in a state of actual progression; next those become stationary,

tionary, either from an acquired insensibility to stimuli, or a diminution of the powers of the parts.—Those connected with a varicose state of the veins will follow; and some attended with diseased actions will be last noticed.

ULCERS

In a PROGRESSIVE or DISTURBED State.

CASE I.

MR. BRIANT, aged 40, a reſpectable Farmer, applied in March 1793, with a wound two inches long upon the right leg a little above the ankle joint; it had been received three months before by the kick of a horſe. The ſurrounding parts were greatly inflamed,

the

the edges and ſurface of the ſore in a ſtate of ſloughing, the diſcharge ſanious, and the pain upon taking exerciſe very great. The nature of his occupation made him ſolicitous that the cure ſhould be accompliſhed without confinement. It was attempted by means of poultices, fomentations, and the different digeſtive applications, upwards of a month, without the least permanent advantage.

On the 15th of the following month the adhesive application was had recourſe to, not only with the above deſcribed diſadvantages, but the addition of a ſinus, which took the direction of the joint. The prepared pieces of calico were applied with their middle

dle parts a little below the ulcer, on the ſound part of the limb, and the ends drawn lightly over the ulcer and ſinus ſo as to bring the retracted edges a little nearer together, and to afford a moderate degree of support to the diseased and adjacent parts; pieces of doubled calico were then applied neatly over the limb, to defend it from the partial action of the roller, and to retain the water I intended to apply. A bandage of calico, of ſufficient length to support the limb from the toes to the knee, was carefully applied, so as to give support without offending by its pressure; and the parts directed to be well wetted with cold water poured from a tea pot as often as they became hot, or at leaſt every hour.

At

At my visit the next day I was informed the pain had been less violent. The wound appeared considerably better, and I was enabled, in consequence of the diminished sensibility, to bring its lips nearer together, and to increase the pressure. The same plan was daily pursued, and by the 20th the sloughing was completed, the sinus nearly obliterated, and the size of the ulcer considerably reduced. The same means were continued till the 30th, with daily increase of pressure, and careful endeavours to bring forward and cover the wound with the old ſkin, the cure at that time appeared to be perfected, and the dressings were discontinued.

CASE II.

WILLIAM RADFORD, a Trow-man, aged 60, received a kick upon the middle part of the tibia, in the Chriſtmas week of the year 1792, which merely broke the skin. His situation in life did not allow him to pay much attention to it, and from that time to the beginning of May 1793, an ulcer had been gradually increasing.

On the 5th he made application to me, having with much pain and difficulty walked

to my house. At that time the ulcer was about the size of a half crown, and of an oval form. Its surface was very irregular, and covered with pointed eminences of unhealthy flesh. The edges and surrounding parts were greatly inflamed, and his pain, when he began to take exercise, scarcely tolerable. The discharge profuse, and of a thin bloody appearance. The same means were immediately had recourse to, and though the patient walked a considerable way every day to be dressed, in less than a week his pain had ceased, the discharge became healthy, and the wound had a granulating appearance. The same means were persevered in, and his cure accomplished in thirty-two days from the date of his application, without any internal means.

CASE III.

WILLIAM JENKINS, aged 30, requested my assistance in May 1793, for an ulcer two inches in length, on the outside of the right leg, a little above the projection of the fibula. It had been occasioned about a month before by the wall of a fold falling, within which some sheep were confined. Upon the occurrence of the accident, he applied to a professional gentleman in his neighbourhood, who

who directed him to poultice it and give it reft, which for some time was in part complied with, without advantage. Other means were then had recourse to, with no better effect, and he becoming impatient on account of his business, which suffered from his indisposition, I was consulted.

The wound appeared to be in a sloughing state, its surface dead, its edges inflamed, and its sensibility very great; the discharge was profuse, thin, and of the colour of coffee grounds.

The adhesive application and other described means were again had recourse to, with similar effect; his cure being accomplished without confinement, in a month.

The preceding cases prove that this method of treating *recent* ulcers, in a progressive state, is not only admissible, but highly advantageous. Numerous instances of its efficacy in this stage of the disease might be adduced, but as such would swell the work without increasing its value, I shall barely remark, that only two failures have occurred in the treatment of many whose ulcers were in that state. These were young healthy persons, with small ulcers on the shins, distinguished by no peculiarity, except a few very small pustules, and an inflamed state of the skin some inches round the ulcers with a detachment of the cuticle to the same extent by a secretion of pus from the inflamed surface. One of them, a young lady, could

bear

bear no application unless in a horizontal posture, and the cure was obtained by the mildest dressings and rest. The other, a gentleman now under my care, who has been my patient only a week, but for whom the dressings were used some days without advantage, and whose aversion to confinement is very great, has had an opening draught given him and been enjoined to avoid high living and much exercise. Though he has not been able to bear his accustomed exercise under this method, and I have in consequence considered him as an instance of its failure, I believe with the above-mentioned precautions his cure will be accomplished by it in a few days.——These cases, however render it probable that disappointments may be experienced

rienced in this state of the disease, and that absolute rest, with the mildest applications, may sometimes prove necessary; but as such occurrences will be very rare, and as the described method will be found successful in by far the greater number of cases, it should I think be always first tried.

CASE IV.

MR. —— an eminent and respectable tradesman of this city, had been afflicted with ulcers of his legs from some cause with which I am unacquainted, many years preceding that of 1790, when I was first consulted for him. Both his legs were greatly increased by the deposition and inspissation of lymph which was not absorbed when the limbs were rested; and the system of veins appeared in as diseased a state as the absorbents, all those in view being in a broken state.

My attendance was continued eighteen months, and it was observed that his wounds were always improved by rest, and rendered irritable by exercise or irregularity. One peculiarity often occurred, and greatly surprized me, as I was not acquainted either with its nature or cauſe; it was the appearance of dark coloured spots on different parts of both limbs, which frequently appeared when the cure appeared to be nearly, and sometimes quite completed, and which were immediately succeeded by the giving way of all the old wounds.

This had been so frequently found to occur under every variety of treatment which seemed likely to prevent it, that I was at last compelled

pelled to decline further attendance, and to inform him that I believed palliatives his only resource. His distress, and the hope of experiencing that relief from others which it had not been in my power to render him, occasioned his application to others; but I frequently learnt, as my enquiries were often made in my attendance upon his family, that his complaints continued to prove extremely distressing.

In the year 1793, when my view of the disease was extended by reflection and experience; and when I had become fully sensible of the surprizing effects of the new method, I became solicitous to know whether the peculiarities of his case would yield to it;

and

and accordingly, upon finding he was at that time attended by no other person, made him a tender of my services, which he declined, from having somehow learnt I was in the habit of applying water to such diseases, and being prepossessed with the idea that his complaint depended upon humours.

In the year 1796 he sent for me, and said he was resolved to submit to amputation, if he could not be speedily relieved by other means. His legs had considerably more ulcerated surface than sound skin, the discharge was incredibly profuse, and the attendant heat greater than I had ever witnessed, though the ulcers did not extend much deeper than through the true skin. The

same

same means were immediately had recourse to, and it was necessary on account of the extent of disease, to apply the plasters from the toes to the knees, and cold water every half hour, as he could only obtain ease by its constant application.

The relief was more remarkable than had ever been observed. In three or four days the pain ceased, the discharge abated, and the wounds began to cicatrize; in six weeks they were nearly healed; when he requested me to discontinue my attendance, as he said he chose to keep open those small wounds, and knew he should be *compelled* to receive a cure if the plan was not changed.

A recurrence to ointments several times occasioned his ulcers to increase and the contiguous parts to become again inflamed. The removal of morbid heat by the application of water, with the use of the plasters, in each instance speedily improved and lessened the ulcers, and removed the inflammation.

The dark appearances which usually preceded ulceration, I now believe to have been occasioned by the deposition of blood, which neither the veins or absorbents in their impaired state could carry away. When the vessels were thus supported, neither discolouration or ulceration again occurred, which could not have been prevented by common bandages, as the parts were always too irritable to bear their tight application.

CASE V.

MRS. MARY HUNT, aged 64, of Portbury, applied with an ulcer of eight years continuance, on the outside of the leg, the size of the palm of the hand. Its surface was dead and sloughing; its edges even with the ſurface, inflamed, and very painful: her nights sleepless, and health deranged; limb more than twice the natural size, and the skin so inflamed and excoriated from the knee to the toes, that much briny discharge

appeared

appeared to be constantly issuing from every pore.

She was so much relieved in fourteen days, as to be permitted to leave Bristol, and to come to be dressed only three times a week.

At her return home the disease was neglected, and the *inflammation* of the skin returned, with the like discharge. She again came to Bristol, when *it* could not be more than relieved by the plasters and water; she was therefore directed to keep in bed, and *it* was cured in ten days by cold poultices compoſed of bread and water, frequently renewed. The limb was reduced

to

to its natural size, and the ulcer cured in a short time afterwards by the described method, without confinement. The above mentioned affection of the skin is frequently found to accompany the ulcer, attended with an enlarged and incompressible state of the limb, and has often been cured by the mere removal of heat, as accomplished by cold water; where that has failed, rest and cold poultices have always completed the cures.

CASE VI.

MRS. —— a married lady, aged 60; consulted me in March 1797, for three ulcers upon the lower part of the calf of the leg, which had been attended a considerable time by another person. The edges were level with the surrounding skin, which was greatly inflamed, the discharge dark coloured, thin, and profuse; the ulcers spreading in every direction, very tender, and apt upon the slightest occasions to bleed. Absolute rest

had always relieved, and twice been the means of cures, which again yielded upon recourse to exercise.

The same means were applied with similar effect; the cure being accomplished in five weeks, without pain or confinement.

Ulcers in this state are always accompanied with considerable discharge, and the production of heat in a proportionate degree. The frequent application of cold water, therefore, in their earlier stages, appears to be indispensibly necessary, and the progression of the cures, as well as the comfort of the patients, will be found to depend upon the frequency of its application.

CASE

ULCERS

Become STATIONARY or INDOLENT.

CASE VII.

HANNAH WEBB, aged 32, servant to Josiah Hill, Esq. of Bedminster, applied to me by the desire of her master, on the 24th of November, 1792, for the cure of two ulcers on the left leg. One upon the outer and lower edge of the soleus muscle, about two inches long, an inch wide, and very deep. The other a little below the external

malleolus

malleolus an inch long, half an inch wide, and of a triangular form.—The edges of both were callous, the discharge thin, and surrounding parts much inflamed. She had been afflicted with them two years, and had been twelve months under the care of a surgeon in the neighbourhood, who by her account, had tried every remedy except absolute reft in bed, without any advantage.

The adhesive plaster spread upon slips of calico was applied, with the middle of the pieces opposite to the ulcers, and the ends drawn *firmly* round the limb, over the ulcers, so as to bring the retracted edges nearer together. The diseased parts were then defended by pieces of soft calico, and a bandage of the same

same, was applied spirally, with *firmness* round the limb from the toes to the knees. She was directed to keep it constantly well wetted, and to take what exercise she pleased. At my next visit, the 25th, I was surprized by the change which had taken place in only twenty-four hours: the edges were reduced, the discharge better, the inflammation less, and she said she had experienced more ease than had been known in the same space for many preceding months. She was dressed every day in a similar manner; and by the ninth of the following month, a period of only fifteen days, both wounds were perfectly cured.

CASE

CASE VIII.

JANE POWELL, aged 27, was taken under my care on the 14th of Auguſt, 1796. She had an ulcer on the outside of the left leg, two inches and a half in length, two inches in breath, and very deep; the discharge was thin and profuse, the edges callous, and the surrounding inflammation considerable.

She was dressed as usual, and in less than

five

five weeks was cured, with little more remaining cicatrix than would have occurred if the parts had been recently divided and again united by the first intention. This disease had been nearly in the same state fifteen months. She had been in a Hospital eighteen weeks, and had been discharged from thence without relief.

CASE

CASE IX.

WILLIAM PREEN, of Tetbury, in Gloucestershire, aged 49, applied to me the 25th of April 1794, with two ulcers on the outfide of the left leg; one about three inches in length, the other somewhat less than two. Both were rather long than broad, and in so bad condition, that a stream of pale, thin, offenfive discharge escaped, when the dressing was removed. He appeared emaciated,

emaciated, and said he had received the assistance of several eminent practitioners, and had been under the constant care of some Surgeon the greatest part of the preceding five years: he subjoined also, that he had lived very freely, and should continue to do so, "that he could not eat, therefore would drink."

He was dressed as usual, and after very strict directions as to temperance, was directed to call on me the next day; he did so, and the wounds in that short period were manifestly improved. In a few days his ulcers became healthy sores, his pain and every other inconvenient symptom left him, and by the twenty-fourth of the next month (May) he

was

was perfectly cured; when he very candidly told me, "I had cured him in despite of himself; that he had lodged at an Inn the whole time he had been under my care, had drank freely every day, and been intoxicated every night."

The ulcers of the last three persons were situated in yielding parts, and the skin upon their limbs loose and free: to those circumstances may be ascribed the performance of the cures within periods so limited. The exercise they took previously to their application to me, kept their wounds in a painful state, and the irregularities of the last patient occasioned his to appear extremely irritable; but the disturbance was not sufficient to occasion the absorption of the callous

edges, or the extension of the sores, and it appears that the processes of re-union and skinning which were both necessary in the latter case, could not be prevented by the irregularities of the patient, when the retracted skin was brought forward, and the other means applied which have been so often recommended.

CASE

CASE X.

JAMES GANE, aged 63, had two ulcers on the outside of the right leg, exactly upon the ankle-joint. One the size of a shilling, the other somewhat less; also two larger almost opposite to the others, on the inside of the same leg; the surfaces were on a level with the surrounding skin, the parts much swollen and inflamed, the joint had nearly lost its mobility, and the limb appeared as if the greatest part

of it had been in an ulcerated state at some former period. He said the disease had been occasioned by the bite of a moschetto fly, at the siege of the Havannah, in the year 1762; that he had been under the care of many Surgeons, and had been three times in Hospitals, but never could obtain a serviceable cure, though it had been several times skinned over; before I put him upon the new plan, I tried every remedy I was acquainted with, not excepting absolute rest in bed upwards of six months, without advancing in any degree towards a cure.

On the 14th of Auguſt, 1796, he was first dressed with the adhesive, and the parts were directed to be frequently wetted with cold

water

water; his relief was as sudden as had been experienced in any of the preceding instances, and in five weeks, he was perfectly cured.

The surfaces of these sores being upon a level with the surrounding skin, and the limb much hardened by inflammation, it was impossible to bring the skin over the ulcerated parts; nevertheless, the cure of four ill-conditioned ulcers upon a leg which had been diseased upwards of thirty-four years, was perfectly accomplished in the short space of five weeks.

CASE

CASE XI.

JOHN PONTIN, of the parish of St. George, in the county of Gloucester, aged 55, was taken under my care on the 25th October, 1796.

About 18 years since, as he was riding a spirited horse which he was unable to manage, from the circumstance of having lost one of his arms some years before, by the bursting of

of a gun; it happened that as the horse passed swiftly the side of a cart, the calf of his leg was caught by the hook of the cart, and the whole of it torn away. He was immediately taken to the Bristol Infirmary, and placed under the care of a gentleman whose patients I dressed at that time, being then an apprentice at the house. A dangerous mortification succeeded to the injury, and it was not without difficulty his life was preserved. He remained in the hospital 37 weeks, and was confined to his bed 27: at the expiration of the former period, he was dismissed, with a large ulcer, on account of some irregularity in his conduct. It continued to embitter his life from that time to the day he was taken under

my

my care. It was six inches and a half in length, and five and a half in breadth; it occupied the part which had formerly been covered by the calf of the leg; the edges were nearly a quarter of an inch thick; the discharge, which was very thin and offensive, fell in a large stream when the dressings were removed; the contraction of the tendons was so great, that he could only touch the ground with the points of his toes, and the limb so generally diseased and hardened by inflammation, as to make it apparent that any attempts to bring forward the retracted skin must prove abortive. His pain was so distressing, that he could neither eat nor sleep; and he appeared very much emaciated.

The

The adhesive slips were applied, and rather forcible endeavours made to bring the sides of the ulcer nearer together by drawing the ends of the slips over it. The limb was then defended with soft calico, and firmly supported with a bandage of the same; and he was directed to keep it constantly cool by means of water. His relief was as speedy and remarkable, as had been observed in any instance; in three or four days the callous edges were levelled with the surface of the ulcer; the discharge was rendered inoffensive, and healthy as that of an iſſue; and the skinning process commenced: from that time his cure uniformly advanced, and in about six or eight months from the time of his application, it was perfectly accomplished.

The

The limb soon became almost as soft and healthy as it ever was; and in consequence of the daily application of warm animal oil to the contracted muscles and tendons, he was enabled to tread much more plainly upon his foot, and to walk some miles every day with ease and convenience. His cure at this time, November 1798, continues permanent.

CASE XII.

MR. GEORGE HIGGS, aged 47, applied on the 20th Sept. 1797, with an ulcer on the inside of the right leg, a little above the ankle joint, six inches and a half in length, and three and a half in breadth; another was also situated on the outer ankle of the same leg, an inch and a half long, and an inch wide; they had been of twelve years continuance, and had resisted every method which could be devised by different surgeons.

The

The edges were remarkably thick and round, the discharge thin and profuse, and the veins in so diseased a state as to occasion the appearance of net work over the whole limb. His pain on the inside of the afflicted leg was scarcely bearable, and his health very much injured.

The same means were applied, with as good effect as in any of the preceding cases; the ulcers being greatly improved in a few days, and cured in six months.

Persons whose ulcers are in the state of the two last described patients, that is, with callous edges, and a considerable extent of exposed surface, will generally require the care

of

of the ſurgeon some months. The time necessary to accomplish cures for diseaſes in that state, will often depend as much upon the situation of the ulcers, and the state of the parts, as upon their size. If the ulcers be situated upon fixed parts, as either of the ankles, and the surrounding parts cannot be brought forward to cover them, the cures will generally be performed more slowly than where they occur upon yielding parts. And it will frequently happen, that they will appear for some days to remain stationary under this treatment; but it will perhaps be always found, that perseverance will ensure cures, as no instance of its failure has occurred in this stage of the disease, where the dressings could be properly applied.

Although

Although ulcers in this state may be so disturbed by irregularity or great exertion, as to occasion inflammation upon their surfaces and edges, and also upon the contiguous parts, and sometimes the death of those surfaces and edges, a careful observer will readily perceive a considerable difference between these symptoms when they occur in this stage of the disease, and when they are observed at an earlier period. The inflammation will rather be confined to the skin than diffused through the substance of the limb, and will be found to resemble the erisipelatous; whilst the dead parts will be longer retained upon the ulcers, and be ultimately separated with more difficulty. These circumstances appear to depend upon

the

the weakened condition of the parts. The inflammation is perhaps occasioned by the facility with which vessels which *have been* dilated again yield, rather than by the over action of those vessels.

The appearance of the parts in the sloughing state, and the difficulty experienced in producing a separation of the sloughs, evidently depend upon the debility of the absorbents, which fail to remove the extremities of the sound parts in contact with the dead parts.

The inflammation is not often accompanied with the production of so much heat as in the earlier stages of this disease, or as

occurs

occurs upon the parts before they have been weakened by its long continuance: consequently the disease in this state does not require so earnest an application of the means whereby heat is removed. The process of separating dead parts, and cleansing sores, is rendered easy by subjecting the absorbents to the impulse of the arteries; by this method, as explained in page 30.

ULCERS

Attended with a DISEASED STATE of the VEINS.

CASE XIII.

MR. JOSEPH HANCOCK, a respectable Farmer of Uphill in Somersetshire, applied to me on the first of July 1797, with a triangular ulcer on the inner ankle of the right leg; it succeeded a fever, had been of ten years continuance, and resisted the skill of two eminent surgeons, a year each. The muscles and skin upon the leg were so much relaxed, and so very yielding, that it was

extremely

extremely difficult to secure any bandage upon it. The veins were greatly enlarged, and apparently much more numerous than are usually observed. The discharge was generally thin, and supposed by the patient to be of a corrosive nature, as a burning sensation was felt upon the wound after exercise or irregularity. The pain upon standing or walking, and frequently when at rest in bed, was very considerable on the inside of the leg, in the direction of the veins. The inflammation, though sometimes extensive, appeared to be confined to the skin; and when most violent, was attended with pimples which itched much, and afforded a briny discharge. These pimples, together with the itching, generally affected in a

greater

greater or less degree, other parts of the surface of the body, when the limb was in a bad ſtate, and induced him to suppose all his symptoms were occasioned by acrid humours, so that he could scarcely be made to believe any remedies would assist him, which had not a tendency to amend the condition of his blood.

The adhesive application was had recourse to, when the disease was in its worst state. His relief was immediate, and the cure perfectly accomplished by the time he had made me four or five viſits, which in consequence of his residing at the distance of twenty miles, were not repeated oftener than twice or three times a week. He was directed to give his

limb the conſtant support of a bandage; and has never since experienced the eruption, briny discharge, or any of those symptoms upon either the leg or the surface or the body, which had so many years occasioned inconvenience and distress.

CASE

CASE XIV.

MRS. ——, aged 45, a married woman, who had been the mother of many children, applied with a small ulcer just above the inner ankle of the right leg, of twelve years continuance; it did not extend deeper than the true skin, and afforded a thin briny discharge. The leg was discoloured by inflammation some inches round the ulcer, and the pain very considerable upon taking exercise.

The

The veins upon the surface of the limb were in a knotty and enlarged state. The flesh soft and compressible, as in the last described case. The itching, and briny discharge upon the surface of the body, were also sometimes observed when the leg was in its worst state. The same means were again applied with similar effects; and the cure compleated in three weeks.

CASE

CASE XV.

MRS. ———, aged 40, the widow of an Inn-keeper, applied in August 1797, with an ulcer above the inner ankle of the left leg. It had been of many years continuance, and had resisted every method which could be devised by different Surgeons. The veins were in a very enlarged and diseased state, the limb extremely soft and flabby, and the pain upon standing or walking, very great. The ulcer

was

was of the size of a shilling, its edges thick and callous, the discharges varying in appearance according to the exercise taken ; and the other symptoms so like those of the two preceeding cases, as to make it unnecessary to repeat them.

The cure was performed in five weeks by the same means. This patient was not freed from pain when the wound was healed, though the calico bandage was continued, but was rendered perfectly easy by the application of adhesive, compleatly over the limb, from the diseased part to the distance of eight inches above it. Her cure continues permanent.

The

The pustulous eruptions and itching, which sometimes affect the surface of the body, whilst wounds continue open, or parts remain in a diseased state, are common, not only to persons affected with sore legs, but to many who have any cause of irritation applied to a part of the surface of the body ; they are frequently occasioned in so great a degree by the mere application of a blister, as to produce all the effects and appearances of erisipelas, with which they are analogous if not identical, each being an inflammation of a partieular part, the true skin, and alike soonest relieved by means most effectual for the cure of that symptom in other parts, namely, abstraction of heat, bleeding and low living. As long as a dis-

ease

ease remains upon any part of the surface of the body, there will be a risque of the re-return of inflammation, and with each return there will be a degree of constitutional disturbance which may be again often removed by the cure of the inflammation ; it is frequently accomplished by the suppuration of the parts : this has furnished many persons with an argument against the propriety of healing ulcers upon the legs, whereas it appears only more fully to establish the impropriety of leaving any exciting cause upon parts so liable to disturbance and inflammation ; the general affection of the skin being a mere effect of the disease of a part, and those sympathetic affections of the stomach and constitution so much dreaded, but which have in no instance been observed

served by me where the cures have been completed, being a mere consequence either of renewed inflammation upon the part, or of the extension of its effects by sympathy, or otherwise, when that happens over the surface of the body. For these and other reasons before delivered, it has long been a practical rule with me, to consider my undertaking as incomplete, until every probable cause of the return of inflammation or of the increase of debility has been removed from the general seat of these diseases: it has not happened in a single instance, that any effects have been observed, which disprove the propriety of that conclusion; whereas it has often happened, when the patients' fears have induced them to keep open small ulcers, that the

accidental

accidental disturbance of them, or their change from a healthy to an irritable state, has affected the constitution by sympathy, so as to have produced heat, thirst, quick pulse, and all those other symptoms of indisposition which would have attended inflammation in any other part.

ULCERS

Distinguished by DISEASED APPEARANCES of their EDGES and of the ADJACENT SKIN.

CASE XVI.

ELIZABETH MORRIS, aged 60, has been servant in a family with whom I am well acquainted many years, and has merited the character of a correct steady person. In July 1798, she applied with many small ulcers on both sides of the right leg, above the ankle, not larger than the diameter of a divided pea or vetch. They did not extend deeper than the true skin; their edges were ragged; their sensibility

sensibility considerable; the surrounding skin deeper coloured than is commonly observed, and the cuticle detached to a considerable extent, by a secretion from the skin of a fluid, which resembled pus diluted with dirty water. The appearance of the ulcers will be best understood by their near resemblance to those sometimes met with upon the membranes of the mouth, and other secreting surfaces. The cicatrices of some which had been healed remained of an unusually dark colour, and appeared to be rather pitted or below the surface of the adjacent cuticle. She was dressed six weeks with the adhesive, and part of that time water was also applied; nevertheless her cure was not advanced, though the application did not occasion

occasion pain, or appear to disagree. At the end of that time she was directed to take one grain of calomel night and morning, and was dressed as usual with the adhesive. In the short space of one week her mouth became affected ; she nevertheless continued the medicine, and in another week was perfectly cured.

Only two similar cases have occured in my practice, those bore so exact a resemblance to the above, except that some of their ulcers were larger, as to make description unnecessary. One of them was a steady man about 50 ; the other a very respectable farmer's wife, about the same age. Each tried the adhesive, &c. without either good or bad

effects,

effects, until calomel was had recourse to, when the cures were speedily accomplished, with no other application than the adhesive.

The freedom of these persons from other symptoms of indisposition, their age, and the respectability of their characters render it certain that their diseases were unconnected with any consequences which arise out of irregularity; though the appearances of their ulcers and the effects of the remedy might induce suspicions of the contrary, in minds unacquainted with the peculiarities of their diseases, and their characters.

RECENT ULCER occasioned by the effects of HEAT.

CASE XVII.

MR. WILLIAM DAVIS, aged 65, in his employment at a Sugar-house, had the misfortune to scald the inside of his right leg, with boiling sugar. It was treated some days by one of my assistants, with oily applications without any advantage; I then directed that the parts should be kept constantly cool, by means of linen cloths frequently moistened with water. The inflammation

flammation under this treatment soon became diminished, but at the end of a fortnight, a part nine inches in length and four in breadth was covered with a slough about the thickness of a crown, which did not seem likely to be removed under a considerable length of time. I had just then been favoured with a letter from Mr. Simmonds of Manchester, wherein he says, speaking of its effects upon burnt parts, " In certain degrees of either of these accidents, the common integument merely is destroyed ; after the separation a large ulcerated surface is left, and the granulations shoot up so luxuriantly that the cure becomes not only tedious but difficult, and requiring the use of painful dressings, by applying the PLASTERS, so as to procure a

over

level surface, the skin will be seen shooting over in a beautiful manner, and will be accomplished in a short time, compared with the usual course in such cases." They were immediately adopted, and the observations of that ingenious Surgeon confirmed by the event, the sloughs being separated, and the whole extent of ulcerated surface perfectly healed in sixteen days, seven only of which he was confined to his bed, and the latter nine employed in the business of boiling sugar.

This case would more properly have been inserted with the account of recent ulcers in a state of progression, but having by accident been omitted, it is placed here,

as well to acknowledge what is due to the Gentleman whose letter occasioned its trial in this case, as to afford another instance of its efficacy, in a disease which considering the patient's unfavourable age, could not, I believe, have been cured by other means, within many months.

CASE

WEAKNESS of the ABSORBENTS,

Occasioned by a fracture of one of the bones of the Leg.

CASE XVIII.

MR. ARTHUR PALMER, aged 78, a respectable servant of the Duke of Beaufort, at the Coal-mines near Bristol, fractured the small bone of his left leg, a little above the ankle, by a fall from his horse, in Auguſt 1798. He was taken home, and the cure of the fracture accomplished in six or seven weeks. Being very corpulent as well

as

as aged, it was observed that the injured leg swelled to more than twice its natural size, when allowed to hang a few hours over the side of the bed; this was in vain attempted to be prevented by the support of a long calico bandage after the limb had been rested a considerable time, which though carefully applied and frequently renewed, occasioned so much pain and inflammation, when the leg was put to the ground, as not to be borne. No chance of relief remained from other remedies in common use without confinement, and it appeared from what had been observed in similar diseases attended with such disadvantages of age and bulk, that there was the greatest probability of his contining

tinuing a cripple a considerable length of time, or for the remainder of his days.

The reasons which have been stated for the application of the adhesive in other cases, occasioned its adoption here. It was had recourse to after the patient lay a night in bed, and the absorbents had been enabled to remove the deposited lymph, which increased the size of the limb. It was so used as to include and support every part from the toes to the knees, with but little more pressure than was afforded by the common integuments in a healthy state. The happiest effects were observed immediately; the return of swelling was effectually prevented, and in a week he was enabled to ride on horse-

back,

back, and attend his business. He had the plasters renewed only twice, and recovered without further confinement or any other application.

In many other instances of weakness and lameness which succeeded to fractures of the bones and strains of the joints, the adhesive plasters prepared and applied so as to form bandages have proved very useful, through the support they afforded. And I believe it will be generally found, that the confinement required in such cases may be considerably diminished, and frequently rendered unnecessary, by their application. This should perhaps be expected from what has been suggested concerning the theory of their effects: but if

it be conjectured that the same advantages may be obtained by common bandages, my personal experience, as well as the reports of my patients, unfortunately enables me to assert the contrary, as a contusion and strain of one of my knees, and a similar injury of my left ankle, the former received in the month of May last, and the latter about ten days since, by the falling of horses, prove that it is possible to walk without much inconvenience when the parts are so supported, at a time that it is scarcely possible to stand if they receive only the support of a common roller.

These facts so strengthen some of the opinions delivered concerning the *manner* whereby

whereby the cure of many ulcers is accomplished, that it would be improper to omit their insertion. The practical inference will not I believe be found less deserving of attention, as it informs us that plasters denominated strengthening, prove so in consequence of their affording a *peculiar kind* of support to the systems of vessels, rather than through the qualities of their ingredients; and that they become much more effectual when applied so as to encompass and support the whole or part of a diseased limb, than when *merely placed* upon it, with the expectation of advantages from the properties of their component parts.

The subjoined very honourable testimony of the efficacy of the means recommended, as well as the effects which result from their proper application will, it is expected, prove that no more has been ascribed to them than may be generally derived from their use. But as one of the letters with which I have been favoured has occasioned the expectation of disappointments which did not occur whilst it was principally endeavoured to extend them to the *worst* cases, considerable pains have been since taken to ascertain by observation and enquiry, wherein they are likely to become unsuccessful, as well as to enable me to point out those which prove most difficult to cure.

It has already been stated that one species of ulcer requires the use of calomel. Two failures have occurred in the treatment of others; and I believe it will be found that the recent ulcers of young persons which affect only the true skin, are most difficult to cure, and the kind from whence disappointments may sometimes be experienced; but as I am not enabled to point out any particular appearances which distinguish the cases wherein it will not succeed, and as a very few days need only be lost in the trial, it may not be amiss to put it to the test in every case, as the instances of its efficacy, even in these, will greatly exceed those of its failure, and as that confinement will be avoided where it proves successful which must

must be submitted to when it fails, the mildest dressings and absolute rest being, I believe, the best if not the only means whereby such cases can be cured.

From

From EVERARD HOME, Esq. F. R. S.
Surgeon to St. George's Hospital, &c.

DEAR SIR,

In answer to your letter, I have much satisfaction in declaring, that I consider your method of applying strips of adhesive plaster to ulcerated legs, as one of the greatest improvements which has been made in that branch of surgery. I have adopted the practice, both in St. George's Hospital, and in many cases of private patients, and its success has answered my most sanguine expectations. In speaking of it thus warmly, I allude principally to cases of long standing,

for

for in those I have found it the most effectual: there are many ulcers too irritable to admit of it, and these, of course, require a different mode of treatment. To have found out a mode of cure for the worst kind of ulcerated legs, is a discovery of no small value, and the public are much indebted to you for it, and it gives me pleasure to acknowledge myself one of those who are highly sensible of the obligation.

Your most obedient Servant.

EVERARD HOME.

Leicester-Square,
August 29, 1798.

From

From Mr. THOMAS HENRY, Apothecary,

To DR. BEDDOES.

MANCHESTER, *Sept.* 5th, 1798.

DEAR SIR,

I deferred answering your favour of the 28th ult. till I was enabled to give a satisfactory account of the degree of success attending MR. BAYNTON'S method of treating ulcers of the legs. For this purpose it was requisite I should see several of the Surgeons; Messrs. Simmons, Bill, Ward, and Hamilton, and they assure me, that the other two, viz. Mr. Killer, and Dr. Taylor concur in opinion with them.—Mr. Ward had accidentally mentioned the subject to me a few days before

fore I received your letter, and rated the savings to the Infirmary much higher than what Mr. Kentish's information goes to, viz : from two to three hundred pounds.* Messrs. S. B. and H. agree in saying that it is difficult to form an exact estimate of the savings, but that shey should not be surprized if they found it to be double what you say. This opinion they found on the great number of ulcerated legs, which formed a great proportion of the diseases of the in-patients. The expence of these was estimated at twelve shillings per week.—Ulcers which used to take five or six months in curing, are now healed in half the time ; and many which in the former modes of treatment, it was neces-

sary

* Per Annum.

sary to take into the house, are as well cured, as out-patients. In short, they all speak in the highest terms of approbation of Mr. B's. discovery, and declare, that every ulcer however extensive and unpromising, that has not been attended with caries, has yielded to the treatment he has recommended. A young gentleman, who had been a pupil of Mr. Bill, has lately been in London, where he found the Surgeons less successful than at Manchester, owing to the slips of plaster being applied so as not to form complete bandages.—On this being rectified, I am told, they succeed better.—Mr. Simmons tells me he has this day written to Mr. Baynton.

I am, dear Sir, &c.

THOMAS HENRY.

From Mr. SIMMONS, Senior Surgeon of the Manchester Infirmary, to the Author.

DEAR SIR,

In a conversation with Mr. Henry yesterday, he said Dr. Beddoes had mentioned in a letter, that the surgeons of Bristol deny the usefulness of your plan of treating ulcers of the legs. I confess myself a good deal surprized, from the great success attending it in my own practice; and cannot account for the disappointment, as no doubt the plasters were properly applied.

In the few observations I have written on

the subject, I have hazarded an opinion of the modus operandi, different from the one you have advanced, for the fate of which I feel diffident; but, after great attention to the changes an ulcer undergoes in its cure, I am unable to satisfy myself that they operate in any other way.

Dr. Duncan has given my account a place in the annals of medicine for last year, in perusing which permit me to request you to read tight for light bandages. As I have canvassed your opinions with freedom, I shall thankfully receive your remarks on mine; and, whether we agree or not on speculative points, I must request you to accept my best thanks for the important improvement you have introduced into practice.

Under your plan of treatment, a patient is freed from a nasty, lingering, and painful disorder, by means both mild and speedily efficient; and the public charities will have to thank you for easing them of an expenfive class of patients, whose cases may now receive equal relief out of the house. I am, dear Sir, with much respect, and sincerest good wishes,

Your obliged and faithful servant,

WILLIAM SIMMONS.

Manchester, Sept. 5, 1798.

From Mr. SANDFORD, *Surgeon to the Worcester Infirmary.*

Worceſter, Jan. 31. 1799.

DEAR SIR,

I cannot have the ſmallest objection to add every testimony in my power to the utility of your method of treating ulcerated legs, that has fallen within the ſphere of my experience, and which you may wiſh to obtain: on the contrary, I conceive it would be unjust to you, and injurious to our art, to withhold any information, to which both are entitled from every liberal practitioner.

Immediately on the publication of your "Deſcriptive Account," in 1797, I adopted the

the mode recommended, first at our Infirmary, and afterwards on ſeveral private patients. My colleagues, Mr. Jeffrey's and Mr. Cole, did the same, with very great ſuccess.

In moſt of the caſes where your method has been applied, I have found it ſucceed beſt after the foul ſtate of the ulcer has been removed by the carbonic poultice, or ſome other detergent application. Several Surgeons in this city and neighbourhood informed me, that they have adopted it with the greateſt ſucceſs. One gentleman told me he had found the addition of reſin unneceſſary in the plaſter, if the *emplaſt. litharg.* had been carefully prepared. This remark,

I have confirmed by my own experience, and in one or two instances, I have I think, succeeded still better where the adhesive plaster has not been spread over the center, but only at each end of the calico strips: under these circumstances, those parts of the strips in immediate contact with the ulcer or wound, will more conveniently allow of cold water or any other humid application, that may be judged most proper. And if the strips when spread in this way, are contrived to intersect each other, as in the simple bandage, frequently made use of in the hare-lip, and afterwards a tailed bandage to assist the intention, it will I presume, be found advantageous, as I have sometimes experienced.

I have not thought it necessary to keep any particular register of the many cases in which I have succeeded in the cure upon your plan; but they have been very numerous; and I can sincerely affirm that I have never witnessed or adopted any method of treating ulcer'd legs, from which such good effects have been generally obtained. I am, sir,

Yours, &c. &c.

R. SANDFORD.

From

From Mr. SHUTE, Surgeon.

DEAR SIR,

In answer to your enquiries, I have the pleasure of informing you, that your method of treating Old Ulcers has been employed in very many cases, at both the Hospitals under my care, as well as in some few instances of private practice, with the most decided success.

I am, Sir, very sincerely,

Your obedient humble Servant,

THOMAS SHUTE.

Park-street, Bristol, Feb. 27, 1799.

THE END.